

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: : Arto LEHTONEN

SERIAL NO.: 09/864,007

EXAMINER: Sujatha Sharma

FILING DATE: 5/23/01

ART UNIT: 2684

TITLE: HANDS-FREE FUNCTION

ATTORNEY DOCKET NO.: 836-010303-US(PAR)

RECEIVED

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Technology Center 2600

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. 1.131

Sir:

I, the patent agent responsible for drafting the above-identified patent application (herein after the Application), declare as follows:

1. The invention described and claimed in the Application (herein The Invention) was conceived in Finland, prior to April 7, 2000, (the filing date of U.S. Patent 6,373,942).
2. Attached to this declaration as Appendix A is a copy of the invention report dated September 1, 1999, generated by the inventor, Arto Lehtonen, and sent to co-employees of Nokia Mobile Phones, LTD, the Assignee in this application and employer of the inventor. The memo and drawing show conception of The Invention.

3. The priority application, Finnish application no. 20001274, from which the instant application claims priority, and which I prepared, was filed on May 26, 2000. The Finnish application described and claimed the invention and its filing constructively reduced the invention to practice on May 26, 2000.
4. Due diligence was exercised from prior to April 7, 2000 to the constructive reduction to practice on May 26, 2000. During this due diligence period I received the invention report on February 21, 2000, met with the inventor on April 4, 2000 to discuss the Invention, and completed the first patent application draft on May 3, 2000. Draft comments were returned to me on May 5, 2000. Thereafter, the drafting process continued so that after a few rounds of iteration, on May 26, 2000, I finalized the priority application, and the finalized priority application was filed with the Finnish Intellectual Property Office (a certified copy of which has previously been provided) on the same day.

These facts clearly establish conception of The Invention prior to April 7, 2000 and due diligence from before April 7, 2000 to the constructive reduction to practice of The Invention on filing of the priority application on May 26, 2000.

I declare that all statements made herein are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18

of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent resulting therefrom.

Date: July 6, 2004

By: Sampa Söderholm  
Sampa Söderholm

**NOKIA****CONFIDENTIAL**☐ File copy

A

☐ Inventors copy

B

Opinion report

Copy accepted

Communication to inventor

Copy accepted

**INVENTION REPORT**

Title of invention: Bluetooth headset with memory card and FM radio		<b>INVENTION REPORT RECEIVED</b>	
Inventor's name: Arto Lehtonen (use space provided on page 2 to add coinventors)		Employee N:o: 8999	Code: 24932
Home address: Silakatu 20 33730 Tampere		Classification:	Rating:
Nationality: Finn		Place: Tampere	Date: 06.09.99
Job title: Senior Manager	Status: Employee	Signature: <i>Sami Inkinen</i>	
Location: Wireless Data, Tampere		<b>COMPLETED BY MANAGER</b>	
Phone +358 50 556 2035	Fax +358 50 85562035	Project / line manager name:	
Email: arto.h.lehtonen@nmp.nokia.com		Sami Inkinen	
Project: New concepts	Project manager: Arto Lehtonen	I have read and understand this invention report disclosure and I agree with the name(s) of the inventor(s).	
Line manager: Sami Inkinen		Date: 2.9.1999	
Enclosures: <input checked="" type="checkbox"/> Disclosure of invention <input type="checkbox"/> Prior art documents <input type="checkbox"/> Other		Signature: <i>Sami Inkinen</i>	
In my opinion the invention belongs to the category *) (not necessary to fill in)		<b>REPLY TO THE INVENTORS</b>	
The invention becomes public on:  I/we consider the invention to belong to the category indicated above and to my/our best knowledge. I am / We are the sole / and original inventor(s) of this invention.  The company may, be virtue of applicable legislation, be entitled to full or partial rights to the invention. I / We acknowledge my / our obligation to sign as inventor(s) all documents that may be required for protecting the invention in different countries.  We agree to that employer's four-month response time to this invention report can be extended by two months <input checked="" type="checkbox"/> yes <input type="checkbox"/> no.		I made it known hereby that the company has decided to:	
Signature of inventor(s): (additional inventors should sign on page 2)		<input type="checkbox"/> reserve the invention for the company	
Date: 1.9.99		<input type="checkbox"/> reserve the right to use the invention	
Signature: <i>[Signature]</i>		<input type="checkbox"/> allow the inventor(s) the liberty for independent action	
		<input type="checkbox"/> issue the enclosed statement	
		<input type="checkbox"/> keep the invention secret	
		<input type="checkbox"/> apply for a patent on the invention	
		<input type="checkbox"/> refrain from applying for a patent on the invention	
		<input type="checkbox"/> postpone the decision about applying for a patent	
I acknowledge receipt of the company's decision regarding the invention indicated above		The invention belongs to category *)	
Date:		Announcement reward:	
Signature(s) of inventor(s):		Place:	Date:
		Signature:	

\*) see instructions to determine the category on last page.

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**NOKIA****1. Field of the invention**

This invention relates in general to the field of mobile phones, more precisely to create a Nokia Walkman concept allowing mobile phone users to carry and listen to hifi music with their personal phone.

**2. Background of the invention**

The distribution and storage of music will change dramatically over the next few years. There are already now commercial products for playing MP3 compressed music files stored on memory cards (f.ex. MMC). MP3 music files are also widely available from the internet for downloading.

Nokia flagship II, Calypso, is an excellent product to introduce the Nokia Walkman concept. Its WAP browser can be used for searching, downloading and purchasing music files from internet. It also has the software to decode the music files for replay.

There are however a few restrictions for use. One is the lack of memory for storing multiple music files which usually require about 1 Mbyte per one minute audio output. As Calypso has only 3.4 Mbytes memory for all user data, of which a large share is taken by contacts, multimedia messages and photos, there is not much space left for songs. Another restriction is the mono audio output through a small speaker or headset.

This invention is a solution to overcome these restrictions to create a true Nokia Walkman concept. At the same time the invention provides a way to add a memory card option to users. The lack of a memory card slot has been considered a high risk for the commercial success of the Calypso products itself. The built-in memory can be easily filled by photos and additional memory may be considered as a must by end users. The memory card was excluded from the basic product due to size restrictions. This invention brings the memory card option in the most popular accessory device for all mobile phones: the headset.

The Flagship products may have the memory card slot built in in the future, but the size problem will continue to restrict the Classic segment phones for including memory cards slots. This invention will continue to be useful in this segment after Calypso.

This invention may be useful for Cleopatra as well. The headset module could have a Compact Flash slot for have extra large hard disk for storing multimedia messages with video.

**3. Summary of the invention**

This invention is a stereo headset with a bluetooth transceiver, a memory card slot, a microphone, an FM radio and a simple user interface panel.

Whereas the size and weight of the electronics in a major problem in mono bluetooth headset, that is not the case in stereo headsets which are always bigger and have wires needed to connect the both ears. The additional electronics can form a small module that user can clip in his shirt or pocket; two short wires lead to the ears. Alternatively, the electronics can be placed in a band which goes over the head.

**4. How does the new method work?**

The user downloads and pays for music files (compressed f.ex. in MP3 format) using the WAP browser of the phone. The music files are immediately moved over the low power rf link to the memory card inserted in the headset unit for later use.

The user can anytime start Music player application in the phone, and select a song from the memory card directory. The selected song is moved over low power rf to the basic product memory for decoding. The decoded audio signal is then send over low power rf to the stereo headset for replay.

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**NOKIA**

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The Bluetooth transfer capacity is high enough to move the encoded MP3 file content from the memory card to the phone, and phone can send the decoded audio signal to the headset. An MP3 file is compressed to 1Mbyte per minute, which is about 130 Kbits/sec. This takes only a marginal share of the transfer capacity. For example a stereo sound with 12 bits dynamics and 32KHz sample rate results in  $2 \times 12 \times 32000 = 768$  Kbits per sec.

When a phone call is received while listening to music, the incoming call is indicated by a special sound. The user can answer to the phone either from the UI panel of the headset unit or from the phone in the conventional way. The headset unit has a microphone for two way phone conversation.

The user has an option to listen to FM radio broadcasts. All FM radio receiver components are inside the headset; the audio output signals are produced internally from radio signal receiver by the antenna. Audio signals are not processed by the phone. The phone can be used for UI controls: tuning, channel selection, volume control, etc.

**5. What problems are solved using this new method?**

- High quality stereo sound is achieved for convenient personal use
- Memory card option is brought to Calypso end users
- GSM transceiver does not interfere FM radio

**6. Does the method have any drawbacks?**

The user that want an optional memory card for storing photos may not be that interested in music applications and may not want to wear or carry a stereo headset.

The end user price of the headset unit is likely to be considerably high, appr. FIM 1000 as the electronics is rather expensive. The memory cards may also be rather expensive. Today 8 Mbytes costs appr. FIM 300 to end users. In the year 2001, the user will get 64..256 Mbytes at the same price.

**7. Explain briefly what you would have to do to determine if a competitor was using this invention**

All components of the invention are clearly visible: memory card, bluetooth, stereo headset.

**8. Search words**


- Electronic music distribution and compression
- Bluetooth headsets
- Memory cards

**9. Has the method been in use, will it soon to be used or published or in any other way made available to the public? When? How?**

No.

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**NOKIA****TO BE COMPLETED BY THE MANAGER**

<b>1. NOKIA USE</b>	
Is this invention going to be used by NOKIA? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Possibly <input type="checkbox"/> No	
In which products? (Business Unit)	Development status of the invention?  <input type="checkbox"/> is fully developed <input checked="" type="checkbox"/> is being developed further <input type="checkbox"/> has no further work envisaged on it
<b>2. VALUE OF THE INVENTION</b>	
Describe the strategic importance to NOKIA by rating 0 - 5: 0 = none 1 = marginal ② = modest (easy to design around or modest potential for standard specification) 3 = moderate (difficult to design around or high potential for standard specification) 4 = significant (only commercially viable solution or very high potential for standard specification) 5 = key strategic value (reads on the standard specification)	
Further information NEEDS EXTRA WORK, NOW A CONCEPT IDEA. DRAWBACK IS THAT PHONE IS ALWAYS NEEDED TO DECODE THE MUSIC — HEADSET ALONE DOES NOT WORK.	
Are competitors likely to want to use the invention? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Why?	
<b>3. PATENTING</b>	
Do you think we should file a patent application? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Which countries are the most important from the patenting point of view? USA, EUROPE, JAPAN	
Urgency of filing <input checked="" type="checkbox"/> Not urgent <input type="checkbox"/> Urgent, deadline	
If urgent, please explain why	
Signed 	Date 2.9.1999

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